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7.(currently amended) An intake manifold air temperature sensor disposed on an intake manifold of an internal combustion engine, comprising a thermistor bead having a coating thereon comprising thermally conductive particles in a resin matrix, the coated thermistor bead being disposed in the intake manifold.

8.(original) The sensor of claim 7 wherein said material comprises metallic particles in said resin matrix.

9.(original) The sensor of claim 8 wherein said metallic particles comprise aluminum particles.

10.(original) The sensor of claim 7 wherein said material comprises non-metallic particles in said resin matrix.

11.(currently amended) The sensor of claim 7 including [[an]] a relatively thin intermediate electrical insulating coating disposed between said thermistor bead and said coating.

12.(currently amended) A temperature sensor, comprising a temperature sensing element having thereon [[an]] a relatively thin inner coating having a relatively low thermal diffusivity and [[an]] a relatively thick outer coating having a relatively high thermal diffusivity.

13.(original) The sensor of claim 12 wherein said inner coating comprises a resin.

14.(original) The sensor of claim 13 wherein said resin comprises epoxy resin.

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15.(original) The sensor of claim 12 wherein said outer coating comprises a resin matrix containing thermally conductive particles.

16.(original) The sensor of claim 12 wherein said inner coating has a thickness of 0.01 to 0.05 mm.

17.(original) The sensor of claim 16 wherein said outer coating has a thickness of 0.1 to 1 mm.

18.(new) The intake manifold air temperature sensor of claim 7 including a seal for sealing on a wall of the intake manifold.